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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,167	06/08/2005	Anne-Mette Hilmen	021645-000400US	2248

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EXAMINER

ENIN-OKUT, EDU E

ART UNIT	PAPER NUMBER
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1795

MAIL DATE	DELIVERY MODE
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07/08/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/538,167	Applicant(s) HILMEN ET AL.	
	Examiner Edu E. Enin-Okut	Art Unit 4132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-13 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-8, drawn to a method for treatment of gas exiting the anode side of a solid oxide fuel cell stack including a separation process based on H₂ selective membranes.

Group II, claim(s) 9-13, drawn to a method for treatment of gas exiting the anode side of a solid oxide fuel cell stack including a separation process based on compressing, drying and cooling to a pressure and temperature where most of the CO₂ is in liquid form and subsequently is separated from the H₂ and CO in a conventional gravity based separation process.

2. The inventions listed as Groups I-II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The technical feature shared by Groups I-II is a method for treatment of gas exiting the anode side of a solid oxide fuel cell stack fueled with a carbon containing fuel in a power producing process, characterized in that the anode gas and cathode gas are kept separated by a seal system in the SOFC stack and that the main part of the H₂ and CO in the anode exhaust is separated from the CO₂ in said exhaust. This limitation is taught by Galloway, U.S. Patent No. 6,187,465 (cited in IDS). See reasons below. Therefore, the shared technical feature cannot be special technical feature(s) because it is known in the prior art. Unity of invention is lacking and restriction is proper.

As to the technical feature described above, Galloway discloses a method for treatment of gas exiting the anode side of a solid oxide fuel cell stack fuelled with a carbon containing fuel in a power

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producing process (Abstract; 2:10-24), characterized in that the anode gas and cathode gas are kept separated by a seal system in the SOFC stack (2:51-53) and that the main part of the H₂ and CO in the anode exhaust is separated from the CO₂ in said exhaust (2:10-20).

3. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

If applicant elects Group I, the species are:

Species A, drawn to the recovered H₂ being fed back to the main SOFC stack and used as fuel (reads on claim 4).

Species B, the recovered H₂ being used to heat the oxygen depleted air entering the expander (reads on claim 5).

Species C, drawn to the recovered H₂ being used to heat the air entering the SOFC stack (reads on claim 6).

Species D, drawn to recovered H₂ being exported as a sales product (reads on claim 7).

Species E, drawn to the recovered H₂ is fed to the desulphurization unit to provide necessary hydrogen for hydrosulphurization (reads on claim 8).

If applicant elects Group II, the species are:

Species A, drawn to the recovered H₂ and CO are being fed back to the main SOFC stack and used as fuel (reads on claim 11).

Species B, the recovered H₂ and CO is removed in order to avoid build-up of gases which are non-condensable and non-combustible (reads on claim 12).

Species C, drawn to the recovered H₂ and CO is fed to the desulphurization unit to provide the necessary hydrogen for hydrodesulphurization (reads on claim 13).

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

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Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The following claim(s) are generic: 1-3, 9, and 10.

4. The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons:

The technical feature shared by Species A-D is a method for treatment of gas exiting the anode side of a solid oxide fuel cell stack fuelled with a carbon containing fuel in a power producing process as recited in claims 1 and 9. These limitations are taught by Iio et al., U.S. Patent No. 6,841,280, and Schramm, U.S. Patent No. 5,079,103 (cited in IDS). See reasons below. Therefore, the shared technical feature cannot be special technical feature(s) because it is known in the prior art. Unity of invention is lacking and restriction is proper.

As to claim 1, Iio et al. discloses a method for treatment of gas exiting the anode side of a solid oxide fuel cell stack fuelled with a carbon containing fuel in a power producing process (Abstract), characterized in that the anode gas and cathode gas are kept separated by a seal system in the SOFC stack (Abstract; 2:46-53) and that the main part of the H₂ and CO in the anode exhaust is separated from the CO₂ in said exhaust by a separation process based on H₂ selective membranes (Abstract; 2:58-63; 3:21-23).

As to claim 9, Schramm discloses a method for treatment of gas exiting the anode side of a solid oxide fuel cell stack fuelled with a carbon containing fuel in a power producing process (Abstract), characterized in that the anode gas and cathode gas are kept separated by a seal system in the SOFC stack (3:54-63, Fig. 1, claim 1), that the main part of the H₂ and CO in the anode exhaust is separated from the

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CO₂ in said exhaust by a separation process based on compressing , drying and cooling to a pressure and temperature (4:1-14) where most of the CO₂ is in liquid form and subsequently is separated from the H₂ and CO in a conventional gravity based separation process (4:7-9).

5. A telephone call was made to Johann Georg Seka on June 30, 2008 to request an oral election to the above restriction requirement, but did not result in an election being made.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Correspondence / Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Edu E. Enin-Okut** whose telephone number is **571-270-3075**. The examiner can normally be reached on Monday-Thursday, 8 a.m. - 4 p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Susy N. Tsang-Foster can be reached on 571-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edu E Enin-Okut/
Examiner, Art Unit 1795

/Susy Tsang-Foster/
Supervisory Patent Examiner, Art Unit 1795